EPA's ENERGY STAR Qualified Products Exchange (QPX)

XML Transaction System

7/24/2012

This document contains technical information regarding the XML Transaction System and serves as a resource for end-user development efforts.

CONTENTS

PURPOSE

The purpose of this document is to provide to certification bodies and other stakeholders the information necessary to interact with EPA's XML Transaction System for the ENERGY STAR Labeled Products Program. This document will describe system requirements that must be followed in order to interact with the transaction system.

INTRODUCTION

The Qualified Products Exchange (QPX) XML Transaction System is a fully-integrated, web-service that is based on the SOAP 1.1 Application Programming Interface (API). It utilizes XML and XSD standards to facilitate the communication of product certification data for ENERGY STAR between Certification Bodies (CBs) and EPA.

SYSTEM MAINTENANCE AND DOWNTIME

Please be advised, the QPX XML Transaction System has scheduled maintenance every Sunday evening from 8:00 PM ET to 12:00AM ET. Please do not plan to transmit data during this time.

AUTHENTICATION PROCESS

The authentication process for the QPX XML Transaction System uses the same credentials that partners have been using to access My ENERGY STAR Account (MESA). It includes the following fields in the SOAP 1.1 Authentication wrapper[1]:

Field Name	Description
Authentication_UserName	Enter the user's MESA User Name
Authentication_Password	Enter the user's MESA Password
Certification_Body_EPA_Issued_Organization_Id	Enter your organization's CBO_ID. If you do not know your CBO_ID, please check MESA or contact certification@energystar.gov

Table 1 lists the authentication fields that are required in the authentication wrapper of the SOAP 1.1 message protocol.

[1] Authentication must occur for each submission, not each transaction since multiple models of the same product category can be submitted within a single submission.

SUBMISSION PROCESS

In order to submit certification data to the QPX XML Transaction System, users must have that data in Extensible-Markup Language (XML) format and that data must be in accordance with the Web Service Definition Language (WSDL)[2] file that is hosted at this location: https://esws.energystar.gov/DataServices/servlet/webservices?ver=1.1&wsdlxml. This file contains the services for which product information can be received and the standards to which the submission must adhere in order for a submission to be successful.

DIAGRAM OF SUBMISSION LIFECYCLE

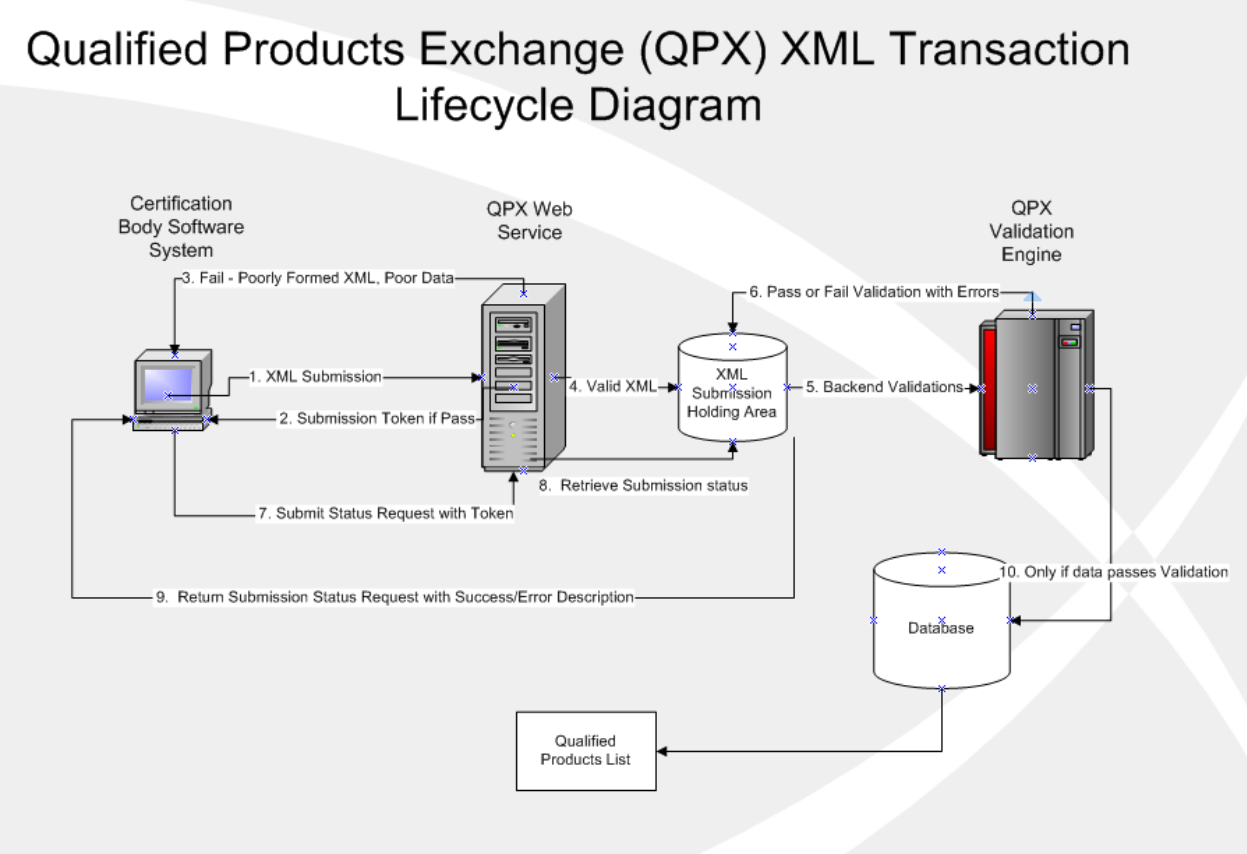

Figure 1 above depicts the transaction lifecycle of the ENERGY STAR QPX XML Transaction System. The system on the left-hand is an end-user client that will interact with the QPX web-service via the SOAP 1.1 protocol.

Process as depicted in Figure 1:

1. Certification bodies use their software to send their XML product data file to ENERGY STAR's web-service.

[2] For more information on the WSDL file, please visit the Web-services section of this document.

2. Upon a successful submission which has ONLY passed front-end, XML-schema validation, a submission token, which uniquely identifies a submission, will be returned. CBs must store this token for use later in the process.
3. If front-end validation fails, a response will be returned with either the failed data quality validations or a blanket error statement for poorly formed XML. If poorly formed, CBs should consult a 3rd-party XML validation tool to help validate the XML structure.
4. If front-end validation passes, the XML file will be transferred to a holding area where it will be queued for backend validation. Backend validation entails pulling information from the live database and running comparisons, as well as other validations listed in the Validation Process section of the Technical Documentation.
5. The QPX processing engine will validate information associated with each submission and test the data for accuracy compared to the data stored in the live database.
6. Upon completion of validation, a success or failure along with any associated errors for each model within the submission will be returned to the holding area.
7. Using the Submission Token, which uniquely identifies each submission, users can submit a request through the web-service for the status of that submission.
8. The web-service will retrieve the status of the submission with related error or success information.
9. The submission status request will be returned to the user.
10. If the data passes front and backend validation, it will then be stored in the database for use in reporting.

TYPE AND REASON FOR TRANSACTION

Below is a table that details the specific usage of these enumerated fields and how they should be properly maintained to ensure successful submissions. For instance, certain types of transactions can only have certain reasons, and vise-versa. If these fields do not match up, they will not pass back-end validation.

Type of Transaction	Reason For Transaction	Validation Rules
Initial Certification	• Product Meets ENERGY STAR Requirements	Model **must not exist** in live DB for matching (CB_OID[3], product type, ESUM_ID[4] and specification version or web service).
Modification	• Added Model Name/Number • Removed Model Name/Number • Changed Model Name/Number • Changed Data • Rerated Products • Other (If Other, List in Notes Field)	Model **must exist** in ENERGY STAR database for matching CB_OID, product type, ESUM_ID and specification version or web service. The last transaction type may not be Certification Withdrawn.
Certification Withdrawn	• No Longer Available • Manufacturer Voluntary Withdrawal • Delisted - Issue with Partnership • Disqualified Product - Failed Testing • Other (If Other, List in Notes Field)	Model **must exist** in ENERGY STAR database for matching CB_OID, product type, ESUM_ID and specification version or web service. Model may not be subsequently submitted with the transaction type of Modification.
Recertification	• Product Meets ENERGY STAR Requirements • Other (If Other, List in Notes Field)	Model **must exist** in ENERGY STAR database for matching CB_OID, product type, ESUM_ID and specification version or web service. Model must have had the transaction type Certification Withdrawn prior to submission with the transaction type of Recertification.

[3] CB_OID is the Certification Body's Organization Identification number.
[4] ESUM_ID is short for ENERGY_STAR_MODEL_IDENTIFIER which occurs frequently in this document. This sequence is a unique value that is expected to be generated by certification body software following the guidelines listed in the Unique Identifiers section of this document.

Registration	• Included in Verification Testing Pool	Model **must not exist** in live DB for matching (CB_OID, product type, ESUM_ID and specification version or web service).

Table 2 above depicts the Type and Reason for Transaction combinations and their validation rules that must be followed in order to have a successful back-end validation.

ASSOCIATING MULTIPLE MODELS WITH A COMMON CERTIFICATION

One of the new features of the QPX XML Transaction System is added support that allows additional models to be reported that have differing product attribute characteristics. This feature requires that each additional model have a separate and unique ENERGY_STAR_MODEL_IDENTIFIER (ESUM_ID) and corresponding CERTIFICATION_ID and FAMILY_ID[5] that are the same as the 'parent' model on the initial certification. Additional models submitted in this manner will be displayed as unique rows on the Qualified Product List (QPL).

The system still supports reporting additional models similar to the Excel-based system by using the Additional Model Name, Additional Model Number, and Additional Identifying Information fields. This allows for the listing of multiple additional models that are part of the same certification where performance characteristics are identical. The additional models may be identified by multiple sets of a model name and/or model number and/or additional identifying information. Each uniquely identified additional model name/number/identifier set must be listed as a separate entry within this field and must not be a comma-separated list. The use of wildcards is allowed, but may limit the ability to search for specific additional model names/numbers/identifiers. Please note that for reporting purposes, these models will be associated with identical performance data and will always be associated with Model Name/Model Number listed in the submission.

Additional Models Transaction Cases	Description	Type/Reason for Transaction	Requirements
Case 1: Adding Additional Model and/or Identifying Information as a stand-alone model for reporting	Additional Model has differing product attribute characteristics	Initial Certification: Product Meets ENERGY STAR Requirements	NEW ESUM_ID[6] must be submitted along with the SAME CERT_ID and FAM_ID if applicable.
Case 2: Adding Additional Model and/or Identifying Information	Additional Model has identical product attribute characteristics as first model	Modification: Added Model Name/Number	The complete list of all additional models must be included in every submission.

[5] Only If model is in a program that supports families.
[6] Refer to glossary of terms for more information on these values and the section on Unique Identifiers

Table 3 above depicts 2 cases for submitting additional models and how the system handles them.

Case 1 above represents new functionality that allows reporting additional models as unique models under the same certification and within the same family (if applicable). These models must have unique ENERGY_STAR_MODEL_IDENTIFIERs and the same CERTIFICATION_ID in order to be associated with other related models.

Case 2 above represents the traditional method of reporting Additional Models maintained in the 'Core' XSD file referenced in the WSDL, which comprises all the fields that are similar across product categories such as Model Name, Model Number, etc. When adding or removing Additional Models using this method, use Modification as the Type of Transaction.

TESTED MODEL NAME AND TESTED MODEL NUMBER

For registered products where it is not possible to determine the exact model name and model number tested, CBs should indicate "Not available – model registered" in the fields for Tested Model Name and Tested Model Number.

TESTING PROCESS

HOW TO SUBMIT A TEST SUBMISSION

The CB will create a valid XML file for the product to be submitted. A valid file is both well-formed (all open tags have a corresponding close tag) and conforms to the schema (which is provided in the WSDL). For example, to submit a Geothermal Heat Pumps test file, the XML will contain a <core_submission> block which contains the following elements for all products:

1. username - same as the one used to login to MESA
2. password - same as the one used to login to MESA
3. Certification Body Organization ID - this is the same Organization ID that is associated with your organization in MESA (it is a number).
4. Test Submission indicator - **mark this as "Yes" to indicate a test submission**. A test submission is one that the system will check for errors, but not store in the live database tables. It is recommended to try a test submission first in order to discover any errors before performing a regular submission. Also, a faster response is expected with the test submission because it will not be delayed by other various database jobs.

The test submission also has a block called <core_product_data>. These are fields that are common to all product types. The core block is followed by all the product-specific fields, such as <Tested_Value_EER_Rating>, which is a field in the Geothermal Heat Pumps submission container. The CB must ensure that all the required fields have values.

QPX will respond with either a generic error message or a detailed response XML (the difference is explained below in the validation process section). In the case of the latter, **CBs must take care to store the submission token**! This is the only way for a CB to track the success or failure of a submission after it has been processed.

VALIDATION PROCESS

Validation within the QPX System is a multi-step process. Due to the nature of the system design, there are strict front-end validations that are embedded within the XML Schema Definition (XSD) file that ensures only properly formed data sets will be submitted to the system. Once this data is received by the server, it is sent to a holding area where the QPX processing engine will validate the information. This process can take anywhere from a few seconds to 10 minutes depending on the server load.

There are **THREE** types of failing submissions:

Type of Failed XML Submission	Description	Action
Poorly formed XML structure	The submitted XML file does not match up correctly with the XSD schema definition file. A blanket error statement will be returned: '… 0:ERROR: 'Server sent back error: Communication Error. See real time job log for details.'	Please evaluate the structure of your XML file by using a 3rd-party XML validation tool to help identify errors in the submission.
Poor Data Quality	Data is not meeting the standards imposed by the XSD file. I.E. if certain data are not in the correct format or breach the length constraints for certain fields.	A detailed error response message will be returned with the lines in the XML file that failed data quality validation. [7]
Submission failed back-end Validation	Data is not passing back-end validation checks performed by QPX processing.	Error codes will be returned as a response to the Submit_Status_Request service listed in the Web-Services WSDL section of this document.

Table 4 above depicts the 3 types of failed 'front-end' XML/XSD validation that occurs when the XML transmission is submitted against the web-service. If a submission passes front-end validation, it still has to pass back-end QPX processing validation in order to be considered successful.

ERROR CODES

The following table lists the current error codes that will be received in the message response either during initial submission or upon submission through the Submit_Status_Request_For_Submission service which is described in the Web-Services section of this document.

UNDERSTANDING ERROR MESSAGES

There are a number of errors that may occur with a submission:

- XML with correct structure, but wrong authentication credentials or organization ID. Please refer to the Error Code table (Table 5) below as a reference.
- XML with correct structure and authentication, but inconsistent with schema. This might occur if, for example, a date field is filled out with text data, or if a required field is left blank. Such errors will be indicated by the code 99999. The <message> field in the response XML will contain a list of all the locations in the submission file where errors were detected. You can use this message to fix your data and then attempt to resubmit.

[7] It is likely that certification body software using .NET libraries and Java libraries will not allow the data to be sent across the web unless it conforms to the XSD standards, and error messages will be generated by those libraries locally.

- If none of the errors described above were encountered, the response XML will return a code 0 (successful authentication and schema validation). However, even though the submission passed authentication and schema validation, it will still need to be processed by the database. **After five to ten minutes**, CBs will be able to submit a status request XML using the submission token to the Submit_Status_Request web-service that is detailed in the Web-services section of this document. The service will then respond with the status of the back-end validation for each of the transactions within the submission and the results of back-end processing. For example, the service will check to make sure all laboratory and manufacturer ID's are valid and point to appropriate organizations in the database.

Error Code	Error Message
1002	Invalid username.
1003	Invalid password.
1004	Invalid Organization ID.
1005	User used to authenicate is inactive with ENERGY STAR
1006	User is not associated with Specified Certification Body
1007	Submission Token Provided cannot be null or empty string.
1008	Submission Token Provided is not valid. Please check your Submission Token and retry
1009	Submission Token Provided is not owned by Certification Body listed
1010	This Submission is still in queue of processing. Please check back the status after sometime.
ESQPX-5001	ENERGY STAR Manufacturing Partner ID "^^PARAM1^^" listed is not in ENERGY STAR database.
ESQPX-5002	ENERGY STAR Manufacturing Partner ID "^^PARAM1^^" listed is not associated with the program "^^PARAM2^^" in ENERGY STAR database.
ESQPX-5003	Laboratory's EPA-issued Organization ID "^^PARAM1^^" listed is not in ENERGY STAR database.
ESQPX-5004	Laboratory's EPA-issued Organization ID "^^PARAM1^^" listed is not associated with the program "^^PARAM2^^" in ENERGY STAR database.
ESQPX-5005	Product Type "^^PARAM1^^" defined for the product is not a valid product type accepted by ENERGY STAR.
ESQPX-5006	Type of Transaction "^^PARAM1^^" listed for the product is invalid.

ESQPX-5007	Reason for Transaction "^^PARAM1^^" listed for the product is nvalid.
ESQPX-5008	Type of Transaction "^^PARAM1^^" and Reason for Transaction "^^PARAM2^^" is not the right combination.
ESQPX-5009	Product - "^^PARAM1^^", "^^PARAM2^^" having ENERGY STAR Model Identifier - "^^PARAM3^^" already exists and hence cannot be accepted with transaction type of "^^PARAM4^^.
ESQPX-5010	Product - "^^PARAM1^^", "^^PARAM2^^" having ENERGY STAR Model Identifier - "^^PARAM3^^" does not exists and hence cannot be accepted with type as "^^PARAM4^^.
ESQPX-5011	Date Certification Body Notified Partner of Model Certification "^^PARAM1^^" is not a valid date. Date must be in range 1/1/2011 to present.
ESQPX-5012	Date submitted for Date Tested "^^PARAM1^^" is not a valid date and must be within the last 20 years.
ESQPX-5013	Certification ID "^^PARAM1^^" and Family ID "^^PARAM2^^" do not meet validation criteria.
ESQPX-5014	Laboratory Contact for this Model is required.
ESQPX-5015	Laboratory's EPA-issued Organization ID is required.
ESQPX-5016	Currently Available in Market "^^PARAM1^^" must be set to "No" if the Date Available on Market is in future.
ESQPX-5017	Date Available on Market "^^PARAM1^^" must not be older than 20 years and not after five years in future.
ESQPX-5018	The only transaction type allowed for this model is "Certification Withdrawn" or "Recertification."
ESQPX-5019	Date Tested "^^PARAM1^^" cannot be a future date.

Table 5 above is a depiction of error codes that will be returned as the result of failed validations that are performed on the backend QPX Processing Engine.

UNIQUE IDENTIFIERS FOR MODEL, CERTIFICATION, AND FAMILY, AND HOW THEY WORK

The QPX XML Transaction System incorporates more fields than were previously used under the Excel-based submission system. These fields help distinguish individual certifications as uniquely identifiable and can be associated to a group of additional models or a family of products. By capturing this information, EPA is able to enhance reports, such as the Qualified Products Lists (QPLs), by allowing additional models with differing product attribute characteristics to be displayed individually. By adding Family_ID, EPA is able to report on products associated with families.

Once these unique identifiers are created and submitted, they **CANNOT** be altered. These identifiers are meant to be a 'one-time' generation and the system uses these sequences for identifying models, certifications, and families. The ENERGY_STAR_MODEL_IDENTIFIER shall remain permanent through the entire model life-cycle across all specification versions.

ENERGY_STAR_MODEL_IDENTIFIER

The ENERGY_STAR_MODEL_IDENTIFIER is a unique sequence that users are required to generate for each model that has differing performance characteristics, and is reported as a single row of data on the Qualified Products lists (QPLs). This unique sequence serves to distinguish each *model* within the QPX system.

It is important to note the permanency of this identifier as it shall remain the same for the unique model through *differing specification versions*. This allows EPA to track the life-cycle of a particular model.

For more information on generating this value, please see Table 6 below on naming standards. This value is NOT optional.

CERTIFICATION_ID

The CERTIFICATION_ID is a unique sequence that users are required to generate for each individual *certification*. One or more ENERGY _STAR_MODEL_IDENTIFIERs may be associated with each unique CERTIFICATION_ID. Please see Table 6 below on naming standards. This value is NOT optional.

FAMILY_ID

The FAMILY_ID is a unique sequence that users may generate for products if they are certified as a product family. FAMILY_ID should be generated only when submitting models for ENERGY STAR specifications that permit product families. Please see Table 6 below on naming conventions. This value is optional but should be included for product family certifications.

RELATIONAL MODEL

Below is a depiction of the database model for the identifiers described above and their role within the QPX system and client-side systems.

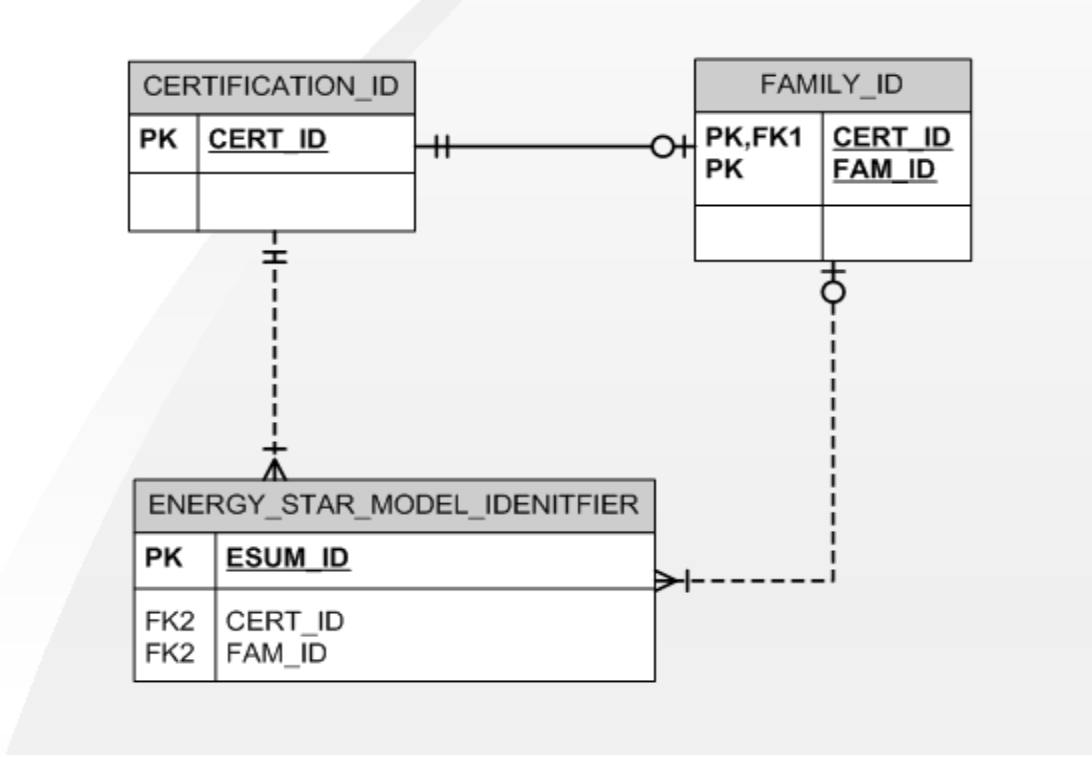

Figure 2 above is a depiction of the relationship between three unique identifiers that the QPX XML Transaction System uses to determine uniqueness of the individual model, certification, and family. Please refer to Table 6 below for a more detailed description.

RELATIONAL MODEL DESCRIPTION

The above diagram is a basic description of how the QPX XML Transaction System handles the relationship between these three values.

Field Name	Restrictions
ENERGY_STAR_MODEL_IDENTIFIER (ESUM_ID)	MUST have EXACTLY ONE CERTIFICATION_ID and ZERO or ONE FAMILY_ID. SHALL remain PERMANENT through entire model life-cycle across ALL specification versions for the unique model.
CERTIFICATION_ID (CERT_ID)	MUST have at LEAST ONE ESUM_ID and can have MANY ESUM_IDs. CERT_ID can have ZERO or ONE FAMILY_ID.
FAMILY_ID (FAM_ID)	MUST have at LEAST ONE ESUM_ID and can have MANY ESUM_IDs. FAM_ID MUST have ONE and only ONE CERT_ID

Table 6 above depicts in detail the relationship that is described in Figure 2, as well as the modality between the three fields.

STANDARDS FOR GENERATING UNIQUE IDENTIFIERS

In the XML Transaction template for any product web-service, there will be three fields that will require the implementation of naming conventions. These fields are used as unique identifiers in the database and define individual models, families of models, and unique certifications. Once these unique identifiers are created and submitted, **they CANNOT be altered**. These identifiers are meant to be a 'one-time' generation and the system uses these sequences for identifying models, certifications, and families. In order to prevent two CBs from generating the same ID, EPA established the following standards:

Field Name	Standard
ENERGY_STAR_MODEL_IDENTIFIER	**ES_<ManufacturerOID>_<MODELNUMBER>_<MMDDYYYYH24MISS>_<randomnumber>** 7-digit random. Please Note: Total Max length of this should not exceed **400** characters. <ManufacturerOID> = Fill in Manufacturer EPA issues O_ID <MODELNUMBER> = Fill in Model Number of the product <MMDDYYYYH24MISS> = Create date time string in the format where MM= month number, DD - Day number, YYYY = Year number, H24 hours (0-23), MI minute number, SS seconds. This typically indicates the date of certification, but there are no validations performed on it. <randomnumber> = Enter a random number to make this identifier unique. Example: ES_0012321_ANPRC422_03282011223443_3141592 **Type: VARCHAR (400)** **Note:** SHALL remain PERMANENT across ALL specification versions for the unique model.
CERTIFICATION_ID[8]	**CER_<ManufacturerOID>_<MMDDYYYYH24MISS>_<randomnumber>** 7-digit random. Please Note: Total Max length of this should not exceed **400** characters. <ManufacturerOID> = Fill in Manufacturer EPA issued O_ID <MMDDYYYYH24MISS> = Create date time string in the format where MM= month number, DD - Day number, YYYY = Year number, H24 hours (0-23), MI minute number, SS seconds. This typically indicates the date of certification, but there are no validations performed on it. <randomnumber> = Enter a 7 digit random number to make this identifier as unique. Example: CER_0012321_03282011223445_1414213 **Type: VARCHAR (400)**

[8] The only difference in the standard for generating CERTIFICATION_ID and ENERGY_STAR_MODEL_IDENTIFIER is that CERTIFICATION_ID does NOT require <MODEL_NUMBER> and has a CER_ prefix.

FAMILY_ID[9]	**FAM_ManufacturerOID>_<MMDDYYYYH24MISS>_<randomnumber>** 7-digit random. Please Not: Total Max length of this should not exceed **400** characters. <ManufacturerOID> = Fill in Manufacturer EPA issued O_ID [[MMDDYYYYH24MISS]] = Create date time string in the format where MM= month number, DD - Day number, YYYY = Year number, H24 hours (0-23), MI minute number, SS seconds. This typically indicates the date of certification, but there are no validations performed on it. <randomnumber> = Enter a 7 digit random number to make this identifier as unique. Example: FAM_0012321_03282011223445_1984292 **Type: VARCHAR (400)**

Table 7 above depicts the standards and conventions for three unique identifiers that are required to be generated by end-users within their software solutions. These naming conventions should adhere to the above guidelines in order to prevent any data from being lost due to users generating duplicate IDs for different models.

WEB-SERVICES WSDL DOCUMENTATION

OVERVIEW

The QPX XML Transaction System implements the **SOAP 1.1 protocol** for the transfer of product certification data through XML web-services. The WSDL file can be referenced here: https://esws.energystar.gov/DataServices/servlet/webservices?ver=1.1&wsdlxml. The web-service leverages SAP BUSINESS OBJECTS DATA SERVICES, which by default, has many services, ports, bindings, and messages that have **no particular usage** with the QPX XML Transaction System. Based on Certification Body feedback, the WSDL is now filtered to only show relevant QPX services which are listed below.

SERVICE NAMING CONVETIONS

Standardized naming conventions for services and namespaces are as follows:

Naming Convention	Example	Specifications Supported	Namespace
Submit_Product_1_x	Submit_Geothermal_Heat_pumps_3_x	3.1, 3.2, etc.	http://www.energystar.gov/schema/Geothermal_Heat_Pumps_3_x/

Table 8 above depicts the naming convention standard for web-services

In the above example, the web-service will always support minor specification changes and new web-services will only be created for major specification revisions, e.g. If there is a major revision to geothermal heat pumps (v4.0), this will require a new web-service.

[9] The only difference between generating CERTIFICATION_ID and FAMILY_ID is the prefix. This will allow developers to reuse code.

LIST OF CURRENT SERVICES

PRODUCTS WEB-SERVICES

For a listing of products web-services and their status of development, testing, and live use, please bookmark www.energystar.gov/qpx and check for updates frequently. This page also contains the data requirements for each web-service in a human-readable format, as well as sample XML files that developers may use for testing submissions.

Each service can handle one-to-many products in a submission as long as those submissions are within the same product specification. For any issues in communicating with these services please send an email to certification@energystar.gov with QPX XML in the subject line and attach a compressed version of your XML submission file to assist our team in determining the issue.

SYSTEM WEB-SERVICES

The below table contains the web-services that are hosted on the QPX Submission WSDL file. These services are separate from the products services and require a separate and smaller set of data to be sent to the web-service.

System Web-service Name	Date Active	Testing	POC	Namespace	Description	Response Object
Submit_Status_Request_For_Submission	11/7/11	***Yes**	certification@energystar.gov	http://www.energystar.gov/schema/status/	Submit your submission token which is returned upon successful completion for a status update regarding your submitted data	Status_Response - returns manufacturer partner, model name, model number, unique identifier (ESUM), accepted or rejected, and error messages

Table 9 above lists active system web-services such as the Status_Request_For_Submission, which takes Submission_Token as a parameter and returns 'Status' of backend validations to the end-user.

XSD SUBMISSION SCHEMA DEFINITION

Below is a depiction of the SOAP 1.1 submission container and how that information is designed in the WSDL file. We are using Geothermal Heat Pumps (GHP) as an example.

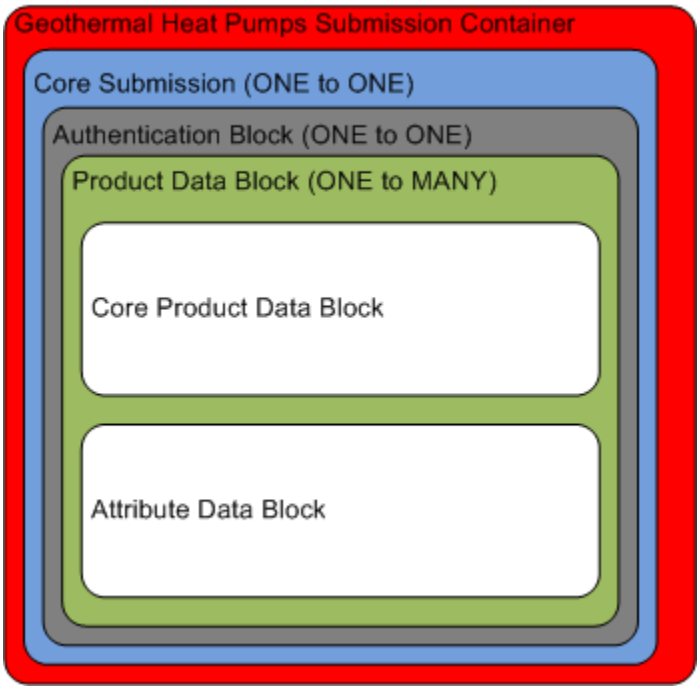

Figure 3 depicts the layout of the XML submission container and how data is structured within a submission through a products web-service.

Within the submission container, there is a second container named Core_Submission, which is a 1-1 relationship with regards to a single submission. Within this container is the authentication block, which is also a 1-1 relationship. Under this block is the Product Data Block, which can occur 1-Many times, allowing for the inclusion of multiple transactions for multiple models within the same product category, which in this case is Geothermal Heat Pumps. Core product data is a collection of fields that are universal across all products, such as model name and model number. Attribute Data block contains the product-specific fields that are unique to that product.

GLOSSARY OF TERMS

Below is a table listing frequently used terms and their corresponding descriptions.

Term	Description
CBs	Certification Bodies – organizations which are qualified to send product certification data to ENERGY STAR.
CERT_ID	Short for Certification_ID, which is a unique sequence that is to be generated by certification bodies that will uniquely identify a SINGLE certification within the QPX XML Transaction System.
ESUM_ID	Short for ENERGY_STAR_MODEL_IDENTIFIER which is a unique sequence that is to be generated by certification bodies that will uniquely identify a SINGLE model within the QPX XML Transaction System.
FAM_ID	Short for Family_ID, which is a unique sequence that is to be generated by certification bodies that will uniquely identify a SINGLE family within the QPX XML Transaction System.
GHP	Geothermal Heat Pumps – the first product program to be supported by ENERGY STAR's QPX XML Transaction System under specification Version 3.1 Tier 3.
MESA	MESA is a system that certification bodies can access and stands for My ENERGY STAR Account.
QPX	Qualified Products Exchange XML Transaction System – ENERGY STAR's new web-service based on XML transmissions between ENERGY STAR's web-service and certification bodies software systems.
SOAP	Simple Object Access Protocol – a transmission protocol for web-services that allows communication between two services.
XML	Extensible-Markup Language – a language that describes data that can be transmitted across the web between two services.

Table 10 above is a glossary of terms that appear frequently within this document and their corresponding descriptions.

SUPPORT

For questions or issues please contact Certification@energystar.gov with "QPX System" in the subject line.

VERSION CONTROL

Version History	Date	Description
Version 2.1	7/24/12	• Removed Web-service table as all updates and statuses on web-services can be accessed at: www.energystar.gov/qpx Please bookmark this page and check for updates frequently.
Version 2.0	7/06/12	• Added services for platforms, ballasts, lamps, and commercial refrigerators • Added section to describe proper use of tested model name and number
Version 1.9	6/28/12	• Added service for Roof Products
Version 1.8	6/1/12	• Added System Maintenance Schedule
Version 1.7	4/10/12	• Added services for Water Coolers, GU24 Fluorescent, Boilers, Vending Machines, Battery Charging Systems, and Enterprise Servers
Version 1.6	3/20/12	• Added services for Telephony, LCHVAC, and Griddles
Version 1.5	3/16/12	• Added services for Furnaces 3.0 and Furnaces 4.0 for CB Testing
Version 1.4	2/20/12	• Added CAC/ASHP web-service • Updated Naming conventions, added section on standards • Added Namespaces column to Web-services section • Removed XML Spy generated message stubs
Version 1.3	1/6/12	• Updated documentation to annotate addition of Dehumidifiers 3.0 template which will enter testing phase. • Updated error code table with new error codes
Version 1.2	12/22/11	• Added clarification in multiple places concerning ESUM_ID and its permanency throughout the life-cycle of a model.
Version 1.1	11/29/11	• Updated Unique Identifier information based on feedback from CB Technical Webinar • Updated Web-service table to reflect change of GHP test service to allow all CBs to test against GHP • Added Version control table
Version 1.0	10/21/11	• Initial release version